



# 11 o'clock files

## Simply Oligopoly

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### Characteristics

- Few firms → interdependent
- Homogeneous (cement, steel) or differentiated (smart phones, detergents) product
- Entry barriers (→ anything that deters entry into a market)

### To illustrate interdependence → use the Prisoner's Dilemma

- Interdependence → the outcome of any action of a firm depends on the reaction of rival firm(s)

		Firm A	
		Maintain	Cut
Firm B	Maintain	12 / 12	1 / 16
	Cut	16 / 1	4 / 4

- If Firm A decides to maintain price it cannot know whether it will earn 12 or 1 (million dollars) because it depends on whether Firm B will also maintain the price or will cut the price

### 4-firm concentration ratio

- The 4-firm concentration ratio → the ratio of the sales of the largest 4 firms over total industry sales → useful to identify an oligopoly market

### To collude or to compete?

- To show this dilemma and the incentive of oligopolists to collude:
  - Use the payoff matrix above
  - Consider Firm A's thinking:

If my rival (Firm B) maintains price, I will be better-off to cut price (as 16mil. > 12mil.)

If my rival (Firm B) cuts price then I will be again better off to cut price (4mil. > 1mil.)

Thus, no matter what my rival (Firm B) chooses to do, I am better-off to cut price

Similarly if you consider Firm B's thinking

It follows that if they work independently, they will both cut price and end up with \$4 million.
- *But, if they had colluded* (if they had they agreed to maintain price high), they would both be enjoying \$16 million which is much better than earning \$4 million.

### Collusion

- Definition: when two or more oligopolistic firms agree to fix price and /or to engage in other anti-competitive behavior (like competition rigging or, market division)
- Why collude? (a) to minimize uncertainty concerning future prices; (b) to prevent instability in revenue and profits; (c) to ensure higher, stable profits
- Collusion can be 'open' (aka formal; rare, as collusion is typically illegal) or, 'tacit' (secret)
- In tacit (secret) agreements, firms may agree to follow the price the largest firm sets ('dominant firm price leadership' model)

- Colluding firms form a cartel → members behave *as if* they were a monopoly and aim to maximize ‘joint profits’ → each member is then allocated a ‘quota’ (how much quantity to offer in the market)
- Draw the monopoly diagram to show the joint output, the agreed (monopoly) price charged as well as the joint supernormal profits the cartel makes
- Cartel members though have an *incentive to cheat* → why? → because, if others stick to the agreement, each can enjoy more profits by undercutting it (charging less or selling more than their agreed upon quota; see payoff matrix above to check) → since all members have the same incentive → such cartel agreements often collapse (but, 85% to 90% are uncovered, according to Prof. Connor...)

**Collusive agreements are *less likely to collapse* if:**

- they include only few members (since monitoring the agreement is easier)
- members control most of the market
- product is homogenous (more generally, if production costs are similar)
- if market is buoyant (things are going well)

**Non-collusive oligopoly**

- Non-collusive simply means that there is no agreement to fix prices
- Even if non-collusive (and, even if cost conditions change) oligopolists typically avoid price competition in order to avoid a possible *price war* → prices are thus ‘rigid’ → oligopolists prefer to engage in *non-price competition* (advertising; volume discounts (buy one get one more for free); coupons and gifts; after sale service; longer guarantees etc.)

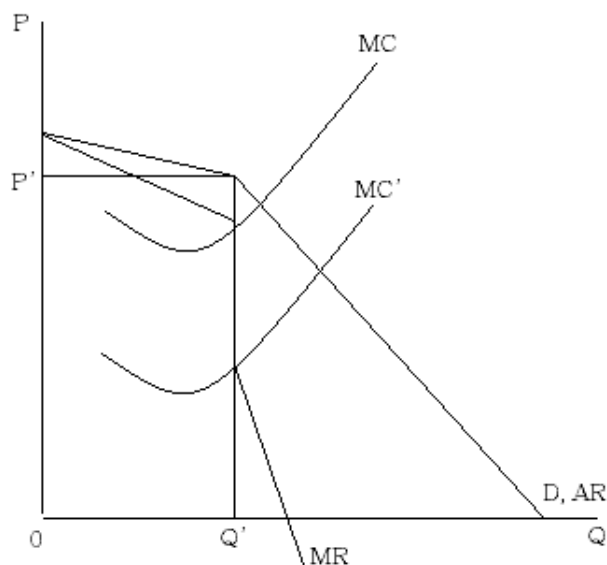
### Prices in oligopolistic markets are typically stable → why?

- Because there may be collusion → thus changes in demand conditions or cost conditions will not affect price
- If non-collusive, still rigid for fear of price war → use the kinked demand curve model → it illustrates that even if costs change, price remains rigid.

### Kinked demand curve (use to illustrate that prices are sticky but also interdependence)

- Two rival firms are assumed in the market
- Each firm believes that if it increases price then the rival firm will not follow but if it cuts price then the rival firm will follow
- There is thus '*asymmetry in response*' → demand is less elastic for prices below current price → A *kink* thus forms at the current price-output point → as a result, there is a *discontinuity in the MR* curve
- It follows that any change in MC, within the range of discontinuity of the MR, will lead to the same output and thus the same price choice → price is *rigid*

### The Kinked Demand Curve



## Evaluating Oligopoly (or, more generally, large firms with monopoly power)

If there is collusion, then this is definitely reason for the Government to intervene, as:

- Consumers pay a high price (close to monopoly level)
- They enjoy less of the product
- Consumer surplus decreases and is transferred to the (few) producers (so, income inequality increases)
- Allocative inefficiency results (and thus a significant welfare loss) as price is much higher than MC)
- Productive inefficiency results (as no incentive to produce with minimum AC)

## On the other hand

- If there is a price war, then price will tend towards the competitive level (i.e. close to MC) and thus more output will be enjoyed; any allocative inefficiency will be insignificant; firms may also be forced to produce closer to minimum AC

## Also remember that

- Typically, oligopolistic firms are large in size so they may enjoy EOS, permitting them to charge a lower price than what would have been charged in a perfectly competitive market
- Such firms may maintain supernormal profits in the long run as a result of entry barriers so they are in a position to invest in R&D
- They may be *forced* to innovate, since if they don't, they risk being swept away by the '*perennial gale of creative destruction*' (this is Schumpeter's argument in favor of large firms with monopoly power; think of what happened to Nokia with Apple's iPhone)

### **Lastly**

- If the firms in the oligopolistic market produce a good that is used as an input by other firms, then the price stability that characterizes oligopolistic markets may be a benefit for the buying firms, as it minimizes uncertainty and permits them to plan ahead their expenses / their budget
- And, consumers may benefit from some forms of non-price competition (like the gifts or the extended guarantees) that oligopolistic firms adopt